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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,642	12/29/2000	Peter Lynton Flake	PA1447US	1487

36503 7590 09/27/2005

SYNOPSYS, INC.  
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EXAMINER
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HARTMAN JR, RONALD D

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/752,642

Applicant(s)

FLAKE ET AL.

Examiner

Ronald D. Hartman Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- \*Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34,35,37,38,40-43,45,46,48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34,35,37,38,40-43,45,46,48 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

1. Claims 34-36, 37-38, 40-43, 45-46 and 48-49 are presented for examination.

#### ***Response to Arguments***

2. Applicant's arguments with respect to claims 34-36, 37-38, 40-43, 45-46 and 48-49 have been considered but are moot in view of the new ground(s) of rejection, as set forth below in this office action.

#### ***Claim Interpretations***

3. Claim 1, lines 12-13, "the compiled application code" lacks proper antecedent basis. That is, since the applicant has described both the "programming language" and the "hardware description language" to both consist of "code", the examiner has interpreted the claimed "compiled code" to be the collective combination of both, that is, the blending of the languages together.

That being said, it appears that the "wrapper" (claim 34), "the automatic threading" (claim 34) and the "mapping data types" (claim 35) are all features that essentially used for the same function, that is, to allow communications to occur to and from each different language so that the simulation may utilize more than one programming language. These terms, and the functions associated therewith, appear to correspond to Burgoon's disclosure of an Interpreter (Section 3), which allows for calling, loading and linking. Also See Section 5 and Sections 7.1 and 7.3 for more details.

#### ***Claim Objections***

4. Claim 1, L 12-13, "the compiled application code" lacks proper antecedent basis.

Claims 40 and 48 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. As such, claims

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40 and 48 are rejected in much the same manner as claims 34 and 42, since claims 40 and 48 purportedly do not serve to further limit these claims (34 and 42).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 34-36, 37-38, 40-43, 45-46 and 48-49 are rejected under 35 U.S.C. 102(a) as being anticipated by "A Mixed-Language Simulator for Concurrent Engineering"; by David A. Burgoon, which was published in March 1998.

As per claims 34 and 42, Burgoon teaches a computer implemented method comprising:

- receiving a description of the digital circuit, wherein a first portion of the description is in a hardware description language and a second portion of the description is in a computer programming language (e.g. Abstract, Section 3 and Section 7);
- blending the first portion and the second portion into an executable simulation, wherein blending the first and second portion involves automatically creating a wrapper for code written in the computer programming language so that code written in the hardware description language can call code written in the computer programming language, and wherein the wrapper facilitates automatic threading, whereby the threading enables the compiled application code to call tasks in the hardware description language (e.g. Abstract and Sections 3 and 7, 7.1, 7.2 and 7.3); and
- executing the executable simulation, wherein executing the simulation allows a designer to simulate operation of the digital circuit (e.g. entire article; pages 16-19).

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As per claims 35 and 43, Burgoon further teaches blending the first and second portions by mapping data types native to the hardware description language to data types native to the computer programming language (e.g. Sections 1, 3 and 7.0, 7.1 and 7.2).

As per claims 37 and 45, Burgoon further teaches the wrapper providing a data communication mechanism between the code written in the HDL and code written in the computer programming language, wherein the data communication mechanism provide mapping between data types in the HDL and the computer programming language (e.g. Sections 1, 3 and 7.0, 7.1 and 7.2).

As per claims 38 and 46, Burgoon further teaches automatically creating the "wrapper" (e.g. inherent to the computer performing the operations necessary for the simulation to occur, wherein the simulation requires communications between two different computer based languages).

As per claims 41 and 49, Burgoon adequately teaches the wrapper outputting a message upon a occurrence pf a call or return, wherein the message can include values associated with the call and return (e.g. calling; Section 3 and Section 7).

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D. Hartman Jr. whose telephone number is (571) 272-3684. The examiner can normally be reached on Mon.-Fri., 11:00 - 8:30 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ronald D Hartman Jr.

Patent Examiner

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XROH

September 21, 2005

  
**Anthony Knight**  
Supervisory Patent Examiner  
Group 3600